

REMARKS

Claims 1-19 are pending in the above-identified application. Support for the insertion into claim 1 is found at page 9, line 25 to page 10, line 17 of the Substitute Specification filed August 25, 2004. The other original claims 3-11 have been amended in order to correct punctuation or so as to be consistent with amended claim 1. Support for new claims 12-19 is found at page 10, lines 12-21 of the specification. Support for the correction to the Substitute Specification is evident from the fact that the value of 2.7 obtained from equation 1 mentioned at line 14 on page 21 can only be obtained if the typographical errors are corrected as indicated.

Issue under 35 USC 101

Claims 3 and 4 have been rejected under 35 USC 101 as allegedly being directed to “non-statutory” subject matter. This rejection is traversed based on the following reasons.

It is noted that the presently amended claims recite a conductive roller including a metallic core and a conductive elastic layer containing a rubber component and an ionic-conductive filler. Thus, the present claims are clearly directed to either a manufactured product (or “manufacture”) or “composition of matter” which constitute acceptable statutory categories of inventions as clearly recited in 35 USC 101. Consequently, it is requested that above-noted rejection be withdrawn.

Issues under 35 USC 102(b) and 103(a)

Claims 1 and 3 have been rejected under 35 USC 102(b) as being anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Daifuku '712 (USP 5,602,712).

Claims 2 and 4 have been rejected under 35 USC 103(a) as being unpatentable over Daifuku '712 in view of Mimura '069 (USP 6,360,069).

Claims 5, 7 and 10 have been rejected under 35 USC 103(a) as being unpatentable over Daifuku '712 in view of Okuda '781 (US 2002/0086781 A1).

All of the above-noted rejections are traversed based on the following reasons.

Present Invention

The present invention is directed to a conductive roller which includes a conductive elastic layer that contains an ionic-conductive filler which is an anion containing salt having a fluoro group and a sulfonyl group. All of the cited references fail to disclose this feature as explained below.

Distinctions between Present Invention and the Cited References

Daifuku '712 discloses a contact charging method and apparatus which may employ a cylindrical base 7 having a skin layer 8 which is formed from a matrix polymer and a filler. The filler may be selected from conductive polymers, carbon black, and other examples as noted at column 10, lines 35-67.

Mimura '069 discloses a roller for electrophotographic systems having a surface roughness adjusted by fine particles. The roller includes a conductive elastic layer which includes a conductivity-imparting agent (D) as noted at column 10, lines 8-19. Component (D) may be selected from carbon black, metal micropowders, and various organic compounds as noted at column 12, lines 54-67.

Okuda '781 discloses a charging roll which includes an outer protective layer 18 formed of a resin containing an electrically conductive agent in the form of a grafted carbon which is formed by grafting a polymer on a surface of carbon black as noted at page 3 in paragraph [0035].

All of Daifuku '712, Mimura '069 and Okuda '781 fail to disclose or suggest the employment of an ionic-conductive filler which is a salt having both a fluoro group and a sulfonyl group, as in the present invention. Therefore, there fails to be any basis for alleging "anticipation" or "non-obviousness" against the present claims based on these references, such that the above-noted rejections should be withdrawn.

It is submitted for the reasons above that the present claims define patentable subject matter such that this application should now be placed in condition for allowance.

If any questions arise in the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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